1849.	R.A. h m s	N.P.D. ° ′ ″	1849.	R.A. h m s	N.P.D. ° ′ ″
June 23	22 41 23·55	105 39 28·3	July 3	22 44 24·40	105 57 59·7
24	41 48·20	40 37·2	4	44 34·18	106 0 43·1
25	42 11·43	41 55·4	5	44 42·39	3 35·9
26	42 33·22	43 22·9	6	44 49·01	6 38·3
27	42 53·57	44 59·7	7	44 54·03	9 50·2
28	43 12·45	46 46·0	8	44 57·43	13 11·5
29	43 29·86	48 41·8	9	44 59·19	16 42·5
30	43 45·77	50 47·0	10	44 59·31	20 22·9
July 1	44 0·17	53 1·8	11	44 57·77	24 12·7
2	22 44 13·06	105 55 26·0	12	22 44 54·56	106 28 11·8

Horizontal Parallax.

	″		″		″
June 2	4·01	June 18	4·45	July 4	4·94
6	4·11	22	4·57	8	5·07
10	4·22	26	4·69	12	5·20
14	4·33	30	4·81		

"The *continuation* is from the same elements as the first portion. I have since computed fresh elements, which agree better with the observations; these are subjoined.

Epoch, May 0·0, Greenwich M.T.

	° ′ ″	
Mean Anomaly	144 9 44·3	
π	71 8 46·8	Mean Eq. May 0·0.
Ω	68 27 46·8	
i	5 35 47·1	
φ	7 4 0·5	
Log a	0·3776655	
μ	962″·7384	

The corrections to the ephemeris, according to these elements, are

1849.	R.A. s	N.P.D. ′ ″
May 1·0	−15·12	+1 26·6
July 20·0	−30·85	+3 18·2

HEBE.

LIVERPOOL. Equatoreal. (Mr. Hartnup.)

	Greenwich M.T.	R.A.	N.P.D.	Compd—Obsd. R.A.	Compd—Obsd. N.P.D.	Star. B.A.C.
1849.	h m s	h m s	° ′ ″	s	″	
April 26	9 13 47·3	6 53 50·63	70 29 53·2	+6·27	−15·8	2233–2330
28	8 57 42·1	6 56 54·93	70 25 46·6	+6·56	−11·7	2271–2350

"Corrected for refraction and parallax, and compared with M. Luther's ephemeris, published in the *Monthly Notices*, Vol. ix. No. 6."

Observations of the Elongations of the Satellites of Saturn, made during the Opposition of 1848 *with the* 20*-foot Equatoreal.* By Mr. Lassell.

"The powers generally used were 219, 297, and 366. The elongations were measured in arc of right ascension, and not in the

direction of the major axis of *Saturn's* ring. This was done for greater accuracy as well as convenience. In the earlier observations, most of the distances are deduced from differences of transits of *Saturn's* limb and the satellite, reduced to *Saturn's* centre by applying the semi-diameter from the *Nautical Almanac;* but the later measures were chiefly micrometrical—a method I greatly prefer and now constantly employ,—except in the great elongations of *Iapetus*, which are too distant for the micrometer. Owing to the present position of *Saturn's* ring, the nearer satellites did not wander sensibly from the plane of the ring; when the more distant ones were obviously out of that plane, I took differences of declination of the satellites and *Saturn's* limb, reduced to his centre.

"The sign + affixed to any measured elongation indicates that the satellite is ascertained, or believed to be receding from the planet; and the sign —, that it is approaching.

Mimas.

1848. d		
Sep. 16·42	Estimated to be at its greatest eastern elongation from *Saturn's* limb, about 1 diameter of the planet.	
19·46	Estimated to be 10″ distant from the preceding limb, moving away from the planet.	
21·54	Estimated to be 30° short of its greatest elongation westward.	

Enceladus.

1848. d	″		
Sep. 16·45	36	E.	estimated
18·37	34	W.	,,
Oct. 17·34	28 +	W.	,,
25·46	36	W.	,,
29·43	28	W.	,,
Nov. 14·38	40	E.	,,

Tethys.

	″		
Oct. 22·45	28·7 +	E.	4 obs.
25·46	43·9 +	W.	3 ,,
29·43	38	W.	estim.
Nov. 4·35	20 —	W.	,,
14·38	49	E.	3 obs.

Hyperion.

	″		
Sep. 21·55	234	E.	
22·41	207	E.	
Oct. 20·35	178	W.	
22·44	203	W.	
Nov. 14·36	133	W.	
24·45	202·8	E.	

Dione.

1848. d	″		
Oct. 5·46	48	E.	
16·50	41	E.	3 obs.
17·34	26	E.	3 ,,
22·45	55 —	E.	4 ,,
25·46	39·6 —	E.	4 ,,
29·43	44·5 —	W.	3 ,,
Nov. 9·28	55·4 —	W.	4 ,,
14·38	50 +	W.	2 ,,
24·45	44·7 —	E.	2 ,,

Rhea.

	″		
Oct. 5·46	66	W.	
16·50	80	E.	
17·34	5 —	E.	
18·35	74 +	W.	5 obs.
20·34	64 +	E.	4 ,,
21·45	56 —	E.	5 ,,
22·45	49 +	W.	6 ,,
29·43	66·9 +	E.	3 ,,
Nov. 4·35	26 —	E.	estim.
11·26	15 +	E.	,,
14·38	69 +	W.	6 obs.
21·35	77 +	E.	3 ,,
24·45	37·2 —	W.	2 ,,

Titan.

1848. d					
Sep. 21·54	193″ E.				
Oct. 5·46	183 E.	2 obs.			
16·50	127 —W.	3 ,,			
17·34	76 —W.	3 ,,			
18·35	occulted by *Saturn*.				
20·34	134 E.	3 ,,			
21·45	181 E.	4 ,,			
22·45	197 E.	2 ,,			
29·43	166·5 + W.	3 ,,			
Nov. 4·35	75·5 + E.	3 ,,			
9·28	148 —E.	4 ,,	14″·4	S.	2 obs.
11·26	91·6 — E.	3 ,,	13·5	S.	2 ,,
14·38	163 + W.	4 ,,	12·6	N.	1 ,,
21·35	134 + E.	4 ,,	6·1	S.	1 ,,
24·45	173·4 — E.	2 ,,			
30·36	159·8 + W.	2 ,,	11·9	N.	2 ,,
Dec. 1·43	171·7 — W.	1 ,,			

Iapetus.

Sep. 21·56	439″·5 E.				
22·41	482 E.				
Oct. 5·46	513 E.		110″	N. of *Saturn's* centre.	
16·50	127 E.	3 obs.	89	N.	2 obs.
17·34	86 E.	3 ,,			
18·35	38 E.	5 ,,	62	N.	3 ,,
20·34	43 W.	4 ,,			
21·45	88 W.	5 ,,	52	N.	
22·45	134 W.	3 ,,	45	N.	
25·46	250 W.	3 ,,	40	N.	
29·43	388·3 W.	2 ,,	5	N.	
Nov. 4·49	524 W.	3 ,,	30	S.	
9·28	538·6 W.	3 ,,	61	S.	2 ,,
11·26	534 W.	3 ,,	64·3	S.	3 ,,
14·38	475 W.	4 ,,	76	S.	2 ,,
21·35	266 W.	3 ,,	73·8	S.	3 ,,
24·45	146·6 W.	2 ,,	68·8	S.	2 ,,
30·40	104·2 E.	1 ,,	44	S.	1 ,, ?
Dec. 1·43	149 E.	1 ,, ?			

Note on the Mass of Uranus. By Mr. Adams.

"The mass of *Uranus* is a very important element in the determination of the orbit of *Neptune*. Two values of this mass have been given, differing widely from each other. Bouvard, from the action of *Uranus* on *Saturn*, found the mass to be $\frac{1}{17918}$, that of the sun being $=1$; while more recently, from observations of the satellites, Lamont has obtained the value $\frac{1}{24605}$. In order to throw light on this subject, Mr. Lassell was kind enough to make for me the observations of the satellites of *Uranus*, which are given in the *Monthly Notice* for March last.